His descriptions and classification show a thorough acquaintance with the subject. The conclusion he arrives at is that the "Jurassic flora of Kaga, Hida, and Echizen belongs to the same geological horizon as the flora of Siberia, Spitzbergen, and Yorkshire—namely, to the Bathonian stage of the Inferior Oolite with special relations to the flora of Siberia." The second paper is by Prof. Yasushi Kikuchi, on "Pyroxenic Components in certain Volcanic Rocks from the Bonin Islands."

IN his Annual Report on Education in Hong Kong, Dr. Eitel, the Government Inspector of Schools, says that the total number of educational institutions of all descriptions known to have been at work in the colony of Hong Kong during the year 1888 amounts to 206 schools, with a grand total of 8717 scholars. More than three-fourths of the whole number of scholars—that is to say, 6728—attended schools (99 in number) which are subject to Government supervision, and either established or aided by Government in some form or other. The remainder—viz. 107 schools, with 1989 scholars—are private institutions entirely independent of Government supervision, and receiving no aid from public funds, except that they are exempt from payment of rates and taxes.

M. TAUPIN, who was recently despatched by the Governor-General of French Indo-China to the Laos States on an exploration, has presented a report of the results, which he sums up as follows:—"I have studied the language and system of writing of the Laos—that is, of the only population in the world possessing a graphic-alphabetical system. Of this there has been up to the present no positive knowledge. It was only known that the Laotian language and writing were somewhat similar to those of Siam. The language is spoken by about four millions of people. I have collected interesting information relating to the natural history of these regions, and much commercial information. . . . I have made numerous meteorological observations, and taken a large number of anthropometrical measurements according to the Broca system."

IN the *Izvestia* of the Moscow Society of the Friends of Natural Science, vol. lxiii., there is an exhaustive work, by M. Kharuzin, on the Kirghizes. The anthropological data relative to the great Bukéeff stem are fully presented, and illustrated by sixteen photographs. The writer also describes the religious beliefs of the Kirghizes, their religious festivities and worship, and their customary law. An appendix contains the results of the excavation of thirty-six *koorgans* in the Kirghiz Steppe.

THE Governor of Jamaica, in his Report regarding the progress of the colony during the past year, says that the Department of Public Gardens and Plantations has done much useful work, and that the distribution and collection of valuable economic plants have been actively carried on. The Hope Gardens, which are intended to take the place of those at Castleton, as the head botanical station, have made good progress, but as they are young, and the authorized annual expenditure limited, some time must elapse before they will be complete. Although they are 19 miles from Kingston, they attract a large number of visitors. At the cinchona plantation actual cultivation has ceased so far as planting operations are concerned, but the establishment of a hill garden there has been attended to. No cinchona bark was shipped during the year, but bark has been supplied to the Government analytical chemist for preparation of a liquid extract of a febrifuge manufactured according to a method adopted by Mr. Hooper, Government Quinologist in the Nilgiris, and which is to be tested by the Medical Department of the colony. Attention is directed to the propagation at Castleton of the Manilla hemp plant with a view to its introduction into different parts of the island, and it is pointed out that even if the fibre is not utilized as an article of export, it may supply a local demand for rope, and so save such a valuable timber-tree as the "mahoe," of which large numbers are annually destroyed by the peasantry by being stripped of their bark, which is twisted into ropes. Another interesting circumstance alluded to is the successful experiment of grafting the mangostien (which, although growing at Castleton for many years, has only recently reached the fruiting stage) upon the gamboge tree of common growth.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus* ♀) from India, presented by Mr. H. J. Cunnington; a Peregrine Falcon (*Falco peregrinus*), captured at sea, presented by Captain Watson; an Indian Fruit Bat (*Pteropus medius* ♂) from India, presented by Mr. Tholen; an Ocelot (*Felis pardalis*) and a Brazilian Cariama (*Cariama cristata*) from South America, presented by Captain W. Heathorn Lacy; a Tuberculated Iguana (*Iguana tuberculata*) from Brazil, presented by Mr. H. E. Blandford; three Palm Squirrels (*Sciurus palmarum*) from India, purchased; an Indian Python (*Python molorus*) from India, deposited; and ten Gold Pheasants (*Thaumalea picta*), bred in the Gardens.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1889 *AUGUST* 11-17.

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on August 11

Sun rises, 4h. 41m.; souths, 12h. 4m. 56·3s.; daily decrease of southing, 9·7s.; sets, 19h. 28m.: right asc. on meridian, 9h. 25·5m.; decl. 15° 9′ N. Sidereal Time at Sunset, 16h. 50m.

Moon (Full on August 11, 5h.) rises, 19h. 36m.*; souths, 23h. 58m.*; sets, 4h. 28m.: right asc. on meridian, 21h. 16·5m.; decl. 18° 54′ S.

Planet.	Rises.		Souths.		Sets.		Right asc. and declination on meridian.			
	h.	m.	h.	m.	h.	m.	h.	m.	°	′
Mercury..	4	56 ...	12	22 ...	19	48 ...	9	43·2 ...	15	34 N.
Venus ...	1	3 ...	9	5 ...	17	7 ...	6	25·0 ...	21	17 N.
Mars ...	3	4 ...	11	1 ...	18	58 ...	8	21·3 ...	20	34 N.
Jupiter ...	16	39 ...	20	32 ...	0	25*...	17	54·4 ...	23	24 S.
Saturn ...	5	1 ...	12	23 ...	19	45 ...	9	43·7 ...	14	53 N.
Uranus ...	10	20 ...	15	49 ...	21	18 ...	13	10·3 ...	6	50 S.
Neptune..	23	1*..	6	51 ...	14	41 ...	4	10·9 ...	19	25 N.

* Indicates that the rising and southing are those of the preceding evening and the setting that of the following morning.

Aug.	h.	
11 ...	14 ...	Mercury in conjunction with and 0° 38′ north of Saturn.
16 ...	14 ...	Saturn in conjunction with the Sun.

Variable Stars.

Star.	R.A.		Decl.						
	h.	m.	°	′			h.	m.	
o Ceti (Mira) ...	2	13·7 ...	3	28 S. ...	Aug.	11,			*M*
δ Libræ	14	55·1 ...	8	5 S. ...	,,	15,	1	40	*m*
V Coronæ	15	45·6 ...	39	54 N. ...	,,	11,			*M*
U Ophiuchi... ...	17	10·9 ...	1	20 N. ...	,,	13,	1	36	*m*
			and at intervals of				20	8	
X Sagittarii... ...	17	40·6 ..	27	47 S. ...	Aug.	12,	0	0	*M*
					,,	16,	3	0	*m*
W Sagittarii ...	17	57·9 ...	29	35 S. ...	,,	11,	3	0	*M*
U Aquilæ	19	23·4 ...	7	16 S. ...	,,	15,	0	0	*m*
η Aquilæ	19	46·8 ...	0	43 N. ...	,,	15,	3	0	*M*
R Sagittæ	20	9·0 ...	16	23 N. ...	,,	16,			*m*
W Cygni	21	31·9 ...	44	53 N. ...	,,	11,			*m*
δ Cephei	22	25·1 ...	57	51 N. ...	,,	15,	2	0	*M*

M signifies maximum; *m* minimum.

Meteor-Showers.

	R.A.	Decl.	
The *Perseids*	44° ...	56° N. ...	Swift; streaks.
Near μ Persei	60 ...	48 N. ...	,, ,,
,, η Aurigæ	74 ...	41 N. ...	,, ,,
,, δ Draconis	290 ...	70 N. ...	Swift.

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Ephemeris of Comet Davidson (by Krueger).

Greenwich Civil Time. h.	Right Ascension. h. m. s.	Declination. ° ′
August 10...0	15 7 26	8 15 N.
12...0	15 16 18	10 55
14...0	15 24 21	13 14
16...0	15 31 43	15 17 N.

Comet diminishing in brightness.

GEOGRAPHICAL NOTES.

We regret to learn of the death of Lieutenant Tappenbeck in the Cameroons. He, with Lieutenant Kund, had been doing good work in the Cameroons interior, as they had before done in the Congo region. Lieutenant Kund has returned to Berlin, and has been describing the results of his second journey into the interior. In general, he and his companions followed the same route as on the previous expedition, and were received in quite a friendly way by the natives who had before attacked them. Very interesting observations were made as to the ethnological conditions of the South Cameroons region. A spot was selected for a station, of which the late Lieutenant Tappenbeck was to have been chief. The region is close to the limit of distribution of the Bantus, and there is a considerable variety of ethnological mixtures. Within the limits of the primæval forest, which lies behind the narrow coast stretch, the explorers came upon an almost dwarfish tribe, with yellow skins, hunting in scattered hordes, and building only temporary shelters for themselves. On the plateau, again, the explorers met with a free and friendly population of large, strong, and handsome men, with a well-organized social system. Quite different from the degraded coast people and the decaying forest people, these highland tribes have preserved the original good features of their race; and among them, Lieutenant Kund thinks, the scientific and industrial development of the Cameroons might be carried out.

Everyone interested in geographical exploration will be sorry to hear of the death, apparently by assassination, of M. Camille Douls, while on his way across the Sahara towards Timbuctoo. M. Douls was born at Bordes, in Aveyron, in 1864. In 1881 he visited the Antilles and Central America; and four years afterwards he spent some time in Morocco, studying the language and manners of the Arabs. In 1887 he explored the unvisited western regions of the Sahara; and last year he started on the journey which was destined, unhappily, to be his last.

Mr. Ernest Favenc describes in the August number of the Proceedings of the Royal Geographical Society, the results of a recent exploring journey in West Australia, in the country situated about 24° S. lat. The result of the trip was the discovery of several large tributary rivers of the Ashburton, running through magnificent pastoral country. Mr. Favenc found the physical features of the country different entirely to the conjectural ones placed on some of the maps of West Australia. Still there is a very great scarcity of water, many of the river beds being quite empty. The geological formation of the Ashburton is against the likelihood of any valuable mineral deposits being discovered in the future. There seem, however, to be indications of a gold reef at the head of the Gascoyne.

Colonel Antonio R. P. Labre, a Brazilian gentleman, has for some time been doing important exploring work in the region between the Beni and Madre de Dios rivers and the Purus. These great South American rivers have been often enough followed along their courses, but no one had attempted to penetrate through the primæval forests that separate their courses. This is what Colonel Labre has done, his leading object being to explore the india-rubber resources of the region. There are many rubber stations along these rivers, mainly occupied by Bolivians. The principal journey of Colonel Labre was undertaken for the purpose of crossing westward from the india-rubber settlements on the Madre de Dios to the nearest navigable point on the Aquiry tributary of the Purus, and ascertaining if the distance and the nature of the ground presented facilities for the construction of a road, and ultimately of a railway. He ascended the Madeira from the Amazons, and although this is the only route by which the considerable trade to and fro between the Amazons and Bolivia is carried on, it took Colonel Labre, with a large and well-equipped expedition, thirty-four days to accomplish the 161 miles between San Antonio at the foot of the long series of falls, and the town of Villa Bella at the mouth of the Beni. During the overland journey several tribes of Indians were met with, about whom little or nothing is known. The people are mostly Araunas, and seem to have a well-organized social system, with temples and some form of worship. The women, some of them light-coloured, are not allowed to enter the temples. The idols are not of human form, but are geometrical figures made of wood and polished. Several other tribes were met with. The general result of Colonel Labre's expedition was to open up a route of communication between the large towns of the Amazons and the whole of Northern Bolivia, a route which may be extended to Southern Peru by the navigation of the Madre de Dios to the province of Paucastambo and the rich and populous province of Cuzco. Colonel Labre believes that the Purus and its affluents contain about 40,000 indigenes speaking forty or more different languages.

Dr. H. Meyer has arrived at Zanzibar for the purpose of making another attempt to ascend to the highest summit of Kilimanjaro. He will afterwards proceed to explore Mount Kenia.

According to *Petermann's Mitteilungen*, Prof. A. Wichmann has recently returned to Europe from his journey to the Dutch East Indies. On the little island of Samauw, lying off the coast of Timor, he found numerous mud volcanoes. On the island of Rotti, at the south-west end of Timor, he discovered upon the slopes, in two mud volcanoes, some ammonites and belemnites, the first Jurassic fossils which have been found in this archipelago. Prof. Wichmann crossed from Palos, on the island of Celebes, to the Bay of Tomine, on the east coast. The route lay over a mountain range about 3000 feet high, covered with primæval forests, and uninhabited. These mountains are composed of gneiss, crystalline slate, and granite.

M. H. Coudreau recently described to the Paris Geographical Society the results of his last expedition to the Tumuc-Humac Mountains (Guiana), which were only very imperfectly explored by the late M. Crevaux. M. Coudreau effected a survey on the scale of 1 : 100,000 of 2500 miles of route, 1625 miles of which lay along river-courses, and the remaining 875 among the mountains. A complete survey was executed of the courses of the Maroni, Oyapock, and Maroni, from their mouths to their sources. M. Coudreau penetrated into the trackless part of the forest, where a passage had to be hewn out. Measurements were made of 150 summits, and the sources of nearly all the water-courses of both slopes of the range were fixed. The climate of these highlands is healthy, the mean temperature being about 72° F. Immense forests cover a large belt of country at the foot of the mountains. From an ethnographical point of view, M. Coudreau's mission has resulted in the careful study of the manners, customs, and dialects of the score or so of Indian tribes inhabiting this region.

M. Borelli, who for three years has been exploring in the Shoa region and the Galla country, tracing the course of an important River Omo, is convinced that this river falls into Lake Samburu, the Prince Rudolf Lake of Count Teleki; and that therefore the Omo does not belong to the Nile basin, but to an entirely distinct inland lake system, which has no outlet. M. Borelli has brought home hundreds of photographs of the people of the region he has been exploring, and large collections of specimens of the products of the country which will be deposited in the Trocadero.

General Strelbitzky has just published a new edition of his work, "The Superficies of the Russian Empire and the Neighbouring States of Asia." He has incorporated in this edition all the new data, accumulated since 1875, relating to the measurement of the superficies of Russia and her Asiatic possessions. Detailed data as to the superficies of interior seas and lakes, islands, and drainage-areas of separate rivers are added; and the writer presents the first trustworthy information as to the superficies of China, Persia, Afghanistan, Bukhara, Khiva, Corea, and Japan. All figures are given in geographical miles, kilometres, and Russian versts.

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